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Medical Knowledge Representation
Issues, Challenges, and New Directions



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Issues

- ◆ Hierarchies (tree structures)
vs. Taxonomies
- ◆ Implicit information
 - Classificatory criteria
 - Dependence relations
 - Equivalent sets of relations



Challenges

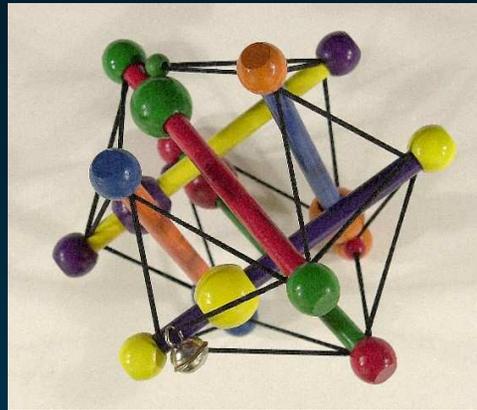
- ◆ Produce large-scale, high-quality ontologies
- ◆ Evolve terminology services out of ontologies
- ◆ Balance complexity and usefulness
- ◆ Accommodate the need of health practitioners (e.g., epistemological features)
- ◆ Mapping between legacy terminologies and new ontologies



New directions

- ◆ Ontologies vs. thesauri
- ◆ Use of formal ontology
 - Not only DL-formalism
- ◆ New tasks
 - Reasoning (not only information retrieval)
 - Database integration
 - Knowledge extraction/discovery from databases/text
- ◆ Used by agents, not only people





Medical Ontology Research

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